P-9.3 Explain the factors that affect buoyancy.

Revised Taxonomy Levels 2.7 B Explain conceptual knowledge

Students did not address this indicator in Physical science

It is essential for all students to

- Use the formula $F_{buoy} = \rho Vg$
  - Where
    - F_{buoy} = the buoyant force
    - ρ = density
    - V = volume
    - g = acceleration of gravity
- Discuss how each of the variables above affect the buoyancy of an object.

Assessment

The verb, explain means that the major focus of assessment should be for students to "construct a cause and effect model". In this case, assessments will ensure that students can model how the buoyant force is affected by each of the given variables. Because the indicator is written as conceptual knowledge, assessments should require that students understand the "interrelationships among the basic elements within a larger structure that enable them to function together." In this case, assessments must show that students can construct a cause and effect statement relating how each of the variables, density, volume, and acceleration of gravity affect the buoyant force on an object.